

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Denver

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Arvada, CO 80002

Tel: (303)736-0100

TestAmerica Job ID: 280-80279-1

Client Project/Site: Xcel Energy GW CCR Monitoring - Comanche

For:

HDR Inc

1670 Broadway, Suite 3400

Denver, Colorado 80202

Attn: Molly Reeves



Authorized for release by:

3/31/2016 12:24:07 PM

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

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Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
H	Sample was prepped or analyzed beyond the specified holding time
E	Result exceeded calibration range.

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
D	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

Job ID: 280-80279-1

Laboratory: TestAmerica Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Comanche

Report Number: 280-80279-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

This report may include data with reporting limits (RLs) less than TestAmerica's standard reporting limit. These data and reporting limits are being used specifically to meet the needs of this project. Note that, data are not customarily reported to these levels without qualifiers, because they are inherently less reliable and potentially less defensible than the latest industry standards require.

RECEIPT

The samples were received on 3/1/2016 at 5:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 3.1° C and 4.1° C.

TOTAL RECOVERABLE METALS (ICPMS)

Samples MW-3 (280-80279-1), W-3 (280-80279-2), W-5 (280-80279-3), W-3D (280-80279-4) and W-3EB (280-80279-5) were analyzed for total recoverable metals (ICPMS) in accordance with EPA SW-846 Method 6020A. The samples were prepared on 03/07/2016 and analyzed on 03/21/2016, 03/22/2016 and 03/24/2016.

Barium, Calcium and Cobalt were detected in method blank MB 240-220532/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Calcium failed the recovery criteria high for the MS of sample 240-61728-2 in batch 240-221601. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount. Refer to the QC report for details.

Samples MW-3 (280-80279-1)[20X], MW-3 (280-80279-1)[5X], W-3 (280-80279-2)[20X], W-5 (280-80279-3)[5X], W-5 (280-80279-3)[50X] and W-3D (280-80279-4)[50X] required dilution prior to analysis . The reporting limits have been adjusted accordingly.

Some project-specific reporting limits on the following samples fall below the laboratory's verified standard quantitation limit: Samples MW-3 (280-80279-1), W-3 (280-80279-2), W-5 (280-80279-3), W-3D (280-80279-4), W-3EB (280-80279-5). The continuing calibration blanks and method blanks may not support the lower RL.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL MERCURY

Samples MW-3 (280-80279-1), W-3 (280-80279-2), W-5 (280-80279-3), W-3D (280-80279-4) and W-3EB (280-80279-5) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared and analyzed on 03/14/2016.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Case Narrative

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

Job ID: 280-80279-1 (Continued)

Laboratory: TestAmerica Denver (Continued)

TOTAL DISSOLVED SOLIDS

Samples MW-3 (280-80279-1), W-3 (280-80279-2), W-5 (280-80279-3), W-3D (280-80279-4) and W-3EB (280-80279-5) were analyzed for total dissolved solids in accordance with SM20 2540C. The samples were analyzed on 03/02/2016, 03/05/2016 and 03/09/2016.

Reanalysis of the following sample was performed outside of the analytical holding time due to high residue (E flag) in the original analysis: W-5 (280-80279-3). As such, these data have been qualified.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL SUSPENDED SOLIDS

Samples MW-3 (280-80279-1), W-3 (280-80279-2), W-5 (280-80279-3), W-3D (280-80279-4) and W-3EB (280-80279-5) were analyzed for total suspended solids in accordance with SM20 2540D. The samples were analyzed on 03/04/2016.

The following sample was diluted due to the nature of the sample matrix, which filtered slowly: W-5 (280-80279-3). Elevated reporting limits (RLs) are provided.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

CORROSIVITY (PH)

Samples MW-3 (280-80279-1), W-3 (280-80279-2), W-5 (280-80279-3), W-3D (280-80279-4) and W-3EB (280-80279-5) were analyzed for corrosivity (pH) in accordance with EPA SW-846 Method 9040B. The samples were analyzed on 03/04/2016 and 03/08/2016.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

ANIONS (28 DAYS)

Samples MW-3 (280-80279-1), W-3 (280-80279-2), W-5 (280-80279-3), W-3D (280-80279-4) and W-3EB (280-80279-5) were analyzed for anions (28 days) in accordance with EPA SW-846 Method 9056A. The samples were analyzed on 03/09/2016 and 03/10/2016.

Sulfate was detected in method blank MB 280-316415/6 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Chloride, Fluoride and Sulfate failed the recovery criteria high for the MS and MSD of sample 280-80479-1 in batch 280-316298. Refer to the QC report for details.

Samples MW-3 (280-80279-1)[10X], MW-3 (280-80279-1)[500X], W-3 (280-80279-2)[5X], W-3 (280-80279-2)[50X], W-5 (280-80279-3)[10X], W-5 (280-80279-3)[200X], W-3D (280-80279-4)[5X] and W-3D (280-80279-4)[50X] required dilution prior to analysis due to the Matrix Conductivity Threshold (MCT) of the instrument. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

RADIUM-226 (GFPC)

Samples MW-3 (280-80279-1), W-3 (280-80279-2), W-5 (280-80279-3), W-3D (280-80279-4) and W-3EB (280-80279-5) were analyzed for Radium-226 (GFPC) in accordance with SW 846 9315. The samples were prepared on 03/08/2016 and analyzed on 03/30/2016.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

RADIUM-228

Samples MW-3 (280-80279-1), W-3 (280-80279-2), W-5 (280-80279-3), W-3D (280-80279-4) and W-3EB (280-80279-5) were analyzed for Radium-228 in accordance with 9320. The samples were prepared on 03/09/2016 and analyzed on 03/25/2016.

Radium-228 was detected in method blank MB 160-239659/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Case Narrative

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

Job ID: 280-80279-1 (Continued)

Laboratory: TestAmerica Denver (Continued)

The following samples were prepared at a reduced aliquot due to sediment and discoloration in the sample: MW-3 (280-80279-1), W-5 (280-80279-3).

The following sample did not meet the Radium-228 detection goal due to the reduced sample volume attributed to matrix interferences: MW-3 (280-80279-1). The data have been qualified and reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

RADIUM-226/RADIUM-228 (GFPC)

Samples MW-3 (280-80279-1), W-3 (280-80279-2), W-5 (280-80279-3), W-3D (280-80279-4) and W-3EB (280-80279-5) were analyzed for Radium-226/Radium-228 (GFPC) in accordance with 9315/9320. The samples were analyzed on 03/30/2016.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

Client Sample ID: MW-3

Lab Sample ID: 280-80279-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	0.00032	J	0.0020	0.00016	mg/L	1		6020A	Total Recoverable
Arsenic	0.16		0.0050	0.00049	mg/L	1		6020A	Total Recoverable
Barium	0.027	B	0.0050	0.0011	mg/L	1		6020A	Total Recoverable
Calcium	440	B	1.0	0.24	mg/L	1		6020A	Total Recoverable
Cadmium	0.0065		0.0010	0.000061	mg/L	1		6020A	Total Recoverable
Cobalt	0.015	B	0.0010	0.000021	mg/L	1		6020A	Total Recoverable
Chromium	0.0073		0.0020	0.00060	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0081	J	0.010	0.00023	mg/L	1		6020A	Total Recoverable
Lead	0.0026		0.0010	0.00011	mg/L	1		6020A	Total Recoverable
Selenium	2.0		0.0050	0.00025	mg/L	1		6020A	Total Recoverable
Thallium	0.0021		0.0010	0.000074	mg/L	1		6020A	Total Recoverable
Boron	0.55		0.40	0.22	mg/L	20		6020A	Total Recoverable
Lithium	1.8		0.0080	0.00029	mg/L	1		6020A	Total Recoverable
Mercury	0.077	J	0.20	0.027	ug/L	1		7470A	Total/NA
pH adj. to 25 deg C	7.42	HF	0.100	0.100	SU	1		9040B	Total/NA
Temperature	20.7	HF	1.00	1.00	Degrees C	1		9040B	Total/NA
Chloride	350		30	2.5	mg/L	10		9056A	Total/NA
Sulfate	48000	B	2500	120	mg/L	500		9056A	Total/NA
Total Dissolved Solids (TDS)	62000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	15		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-3

Lab Sample ID: 280-80279-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	0.00075	J	0.0020	0.00016	mg/L	1		6020A	Total Recoverable
Arsenic	0.013		0.0050	0.00049	mg/L	1		6020A	Total Recoverable
Barium	0.014	B	0.0050	0.0011	mg/L	1		6020A	Total Recoverable
Calcium	450	B	1.0	0.24	mg/L	1		6020A	Total Recoverable
Cadmium	0.00012	J	0.0010	0.000061	mg/L	1		6020A	Total Recoverable
Cobalt	0.00089	J B	0.0010	0.000021	mg/L	1		6020A	Total Recoverable
Molybdenum	0.052		0.010	0.00023	mg/L	1		6020A	Total Recoverable
Lead	0.00031	J	0.0010	0.00011	mg/L	1		6020A	Total Recoverable
Selenium	0.086		0.0050	0.00025	mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Denver

Detection Summary

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

Client Sample ID: W-3 (Continued)

Lab Sample ID: 280-80279-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.1		0.40	0.22	mg/L	20		6020A	Total Recoverable
Lithium	0.45		0.0080	0.00029	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.92	HF	0.100	0.100	SU	1		9040B	Total/NA
Temperature	21.3	HF	1.00	1.00	Degrees C	1		9040B	Total/NA
Chloride	240		15	1.3	mg/L	5		9056A	Total/NA
Fluoride	0.90	J	2.5	0.30	mg/L	5		9056A	Total/NA
Sulfate	9500		250	12	mg/L	50		9056A	Total/NA
Total Dissolved Solids (TDS)	14000		100	47	mg/L	1		SM 2540C	Total/NA

Client Sample ID: W-5

Lab Sample ID: 280-80279-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	0.00039	J	0.0020	0.00016	mg/L	1		6020A	Total Recoverable
Arsenic	0.027		0.0050	0.00049	mg/L	1		6020A	Total Recoverable
Barium	0.041	B	0.0050	0.0011	mg/L	1		6020A	Total Recoverable
Calcium	490	B	1.0	0.24	mg/L	1		6020A	Total Recoverable
Cadmium	0.00078	J	0.0010	0.000061	mg/L	1		6020A	Total Recoverable
Cobalt	0.019	B	0.0010	0.000021	mg/L	1		6020A	Total Recoverable
Chromium	0.0029		0.0020	0.00060	mg/L	1		6020A	Total Recoverable
Molybdenum	0.051		0.010	0.00023	mg/L	1		6020A	Total Recoverable
Lead	0.00074	J	0.0010	0.00011	mg/L	1		6020A	Total Recoverable
Selenium	0.31		0.0050	0.00025	mg/L	1		6020A	Total Recoverable
Thallium	0.00018	J	0.0010	0.000074	mg/L	1		6020A	Total Recoverable
Boron	2.8		1.0	0.55	mg/L	50		6020A	Total Recoverable
Lithium	1.7		0.0080	0.00029	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.66	HF	0.100	0.100	SU	1		9040B	Total/NA
Temperature	20.7	HF	1.00	1.00	Degrees C	1		9040B	Total/NA
Chloride	870		30	2.5	mg/L	10		9056A	Total/NA
Fluoride	4.2	J	5.0	0.60	mg/L	10		9056A	Total/NA
Sulfate	38000	B	1000	46	mg/L	200		9056A	Total/NA
Total Dissolved Solids (TDS)	49000	H	1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	66		10	2.8	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-3D

Lab Sample ID: 280-80279-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	0.00070	J	0.0020	0.00016	mg/L	1		6020A	Total Recoverable
Arsenic	0.012		0.0050	0.00049	mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Denver

Detection Summary

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

Client Sample ID: W-3D (Continued)

Lab Sample ID: 280-80279-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.012	B	0.0050	0.0011	mg/L	1		6020A	Total Recoverable
Calcium	410	B	1.0	0.24	mg/L	1		6020A	Total Recoverable
Cadmium	0.000095	J	0.0010	0.000061	mg/L	1		6020A	Total Recoverable
Cobalt	0.00071	J B	0.0010	0.000021	mg/L	1		6020A	Total Recoverable
Molybdenum	0.047		0.010	0.00023	mg/L	1		6020A	Total Recoverable
Lead	0.00024	J	0.0010	0.00011	mg/L	1		6020A	Total Recoverable
Selenium	0.077		0.0050	0.00025	mg/L	1		6020A	Total Recoverable
Boron	2.4		1.0	0.55	mg/L	50		6020A	Total Recoverable
Lithium	0.46		0.0080	0.00029	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.91	HF	0.100	0.100	SU	1		9040B	Total/NA
Temperature	21.0	HF	1.00	1.00	Degrees C	1		9040B	Total/NA
Chloride	240		15	1.3	mg/L	5		9056A	Total/NA
Fluoride	0.82	J	2.5	0.30	mg/L	5		9056A	Total/NA
Sulfate	9600		250	12	mg/L	50		9056A	Total/NA
Total Dissolved Solids (TDS)	15000		100	47	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	2.4	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-3EB

Lab Sample ID: 280-80279-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0056	B	0.0050	0.0011	mg/L	1		6020A	Total Recoverable
Calcium	0.30	J B	1.0	0.24	mg/L	1		6020A	Total Recoverable
Cobalt	0.000044	J B	0.0010	0.000021	mg/L	1		6020A	Total Recoverable
Chromium	0.0016	J	0.0020	0.00060	mg/L	1		6020A	Total Recoverable
Molybdenum	0.00028	J	0.010	0.00023	mg/L	1		6020A	Total Recoverable
Lead	0.00069	J	0.0010	0.00011	mg/L	1		6020A	Total Recoverable
Lithium	0.0015	J	0.0080	0.00029	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.10	HF	0.100	0.100	SU	1		9040B	Total/NA
Temperature	12.6	HF	1.00	1.00	Degrees C	1		9040B	Total/NA
Sulfate	0.89	J	5.0	0.23	mg/L	1		9056A	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver

Method Summary

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CAN
7470A	Mercury (CVAA)	SW846	TAL DEN
9040B	pH	SW846	TAL DEN
9056A	Anions, Ion Chromatography	SW846	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL DEN
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-80279-1	MW-3	Ground Water	02/29/16 15:00	03/01/16 17:30
280-80279-2	W-3	Ground Water	03/01/16 10:40	03/01/16 17:30
280-80279-3	W-5	Ground Water	03/01/16 13:00	03/01/16 17:30
280-80279-4	W-3D	Water	03/01/16 11:15	03/01/16 17:30
280-80279-5	W-3EB	Ground Water	03/01/16 12:00	03/01/16 17:30

Client Sample Results

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

Method: 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: W-5

Date Collected: 03/01/16 13:00

Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-3

Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.8		1.0	0.55	mg/L		03/07/16 13:37	03/24/16 13:25	50
Lithium	1.7		0.0080	0.00029	mg/L		03/07/16 13:37	03/22/16 22:28	1

Client Sample ID: W-3D

Date Collected: 03/01/16 11:15

Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00070	J	0.0020	0.00016	mg/L		03/07/16 13:37	03/21/16 17:21	1
Arsenic	0.012		0.0050	0.00049	mg/L		03/07/16 13:37	03/21/16 17:21	1
Barium	0.012	B	0.0050	0.0011	mg/L		03/07/16 13:37	03/21/16 17:21	1
Beryllium	ND		0.0010	0.000053	mg/L		03/07/16 13:37	03/22/16 22:36	1
Calcium	410	B	1.0	0.24	mg/L		03/07/16 13:37	03/21/16 17:21	1
Cadmium	0.000095	J	0.0010	0.000061	mg/L		03/07/16 13:37	03/21/16 17:21	1
Cobalt	0.00071	J B	0.0010	0.000021	mg/L		03/07/16 13:37	03/21/16 17:21	1
Chromium	ND		0.0020	0.00060	mg/L		03/07/16 13:37	03/21/16 17:21	1
Molybdenum	0.047		0.010	0.00023	mg/L		03/07/16 13:37	03/21/16 17:21	1
Lead	0.00024	J	0.0010	0.00011	mg/L		03/07/16 13:37	03/21/16 17:21	1
Selenium	0.077		0.0050	0.00025	mg/L		03/07/16 13:37	03/21/16 17:21	1
Thallium	ND		0.0010	0.000074	mg/L		03/07/16 13:37	03/21/16 17:21	1
Boron	2.4		1.0	0.55	mg/L		03/07/16 13:37	03/24/16 13:29	50
Lithium	0.46		0.0080	0.00029	mg/L		03/07/16 13:37	03/22/16 22:36	1

Client Sample ID: W-3EB

Date Collected: 03/01/16 12:00

Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-5

Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00016	mg/L		03/07/16 13:37	03/21/16 17:29	1
Arsenic	ND		0.0050	0.00049	mg/L		03/07/16 13:37	03/21/16 17:29	1
Barium	0.0056	B	0.0050	0.0011	mg/L		03/07/16 13:37	03/21/16 17:29	1
Beryllium	ND		0.0010	0.000053	mg/L		03/07/16 13:37	03/22/16 22:45	1
Calcium	0.30	J B	1.0	0.24	mg/L		03/07/16 13:37	03/21/16 17:29	1
Cadmium	ND		0.0010	0.000061	mg/L		03/07/16 13:37	03/21/16 17:29	1
Cobalt	0.000044	J B	0.0010	0.000021	mg/L		03/07/16 13:37	03/21/16 17:29	1
Chromium	0.0016	J	0.0020	0.00060	mg/L		03/07/16 13:37	03/21/16 17:29	1
Molybdenum	0.00028	J	0.010	0.00023	mg/L		03/07/16 13:37	03/21/16 17:29	1
Lead	0.00069	J	0.0010	0.00011	mg/L		03/07/16 13:37	03/21/16 17:29	1
Selenium	ND		0.0050	0.00025	mg/L		03/07/16 13:37	03/21/16 17:29	1
Thallium	ND		0.0010	0.000074	mg/L		03/07/16 13:37	03/21/16 17:29	1
Boron	ND		0.020	0.011	mg/L		03/07/16 13:37	03/24/16 13:34	1
Lithium	0.0015	J	0.0080	0.00029	mg/L		03/07/16 13:37	03/22/16 22:45	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: MW-3

Date Collected: 02/29/16 15:00

Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-1

Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.077	J	0.20	0.027	ug/L		03/14/16 11:20	03/14/16 18:50	1

TestAmerica Denver

Client Sample Results

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

General Chemistry (Continued)

Client Sample ID: W-5

Date Collected: 03/01/16 13:00

Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-3

Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Temperature	20.7	HF	1.00	1.00	Degrees C			03/04/16 17:48	1
Chloride	870		30	2.5	mg/L			03/10/16 01:05	10
Fluoride	4.2	J	5.0	0.60	mg/L			03/10/16 01:05	10
Sulfate	38000	B	1000	46	mg/L			03/10/16 12:12	200
Total Dissolved Solids (TDS)	49000	H	1000	470	mg/L			03/09/16 15:41	1
Total Suspended Solids	66		10	2.8	mg/L			03/04/16 15:14	1

Client Sample ID: W-3D

Date Collected: 03/01/16 11:15

Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.91	HF	0.100	0.100	SU			03/04/16 17:58	1
Temperature	21.0	HF	1.00	1.00	Degrees C			03/04/16 17:58	1
Chloride	240		15	1.3	mg/L			03/10/16 01:40	5
Fluoride	0.82	J	2.5	0.30	mg/L			03/10/16 01:40	5
Sulfate	9600		250	12	mg/L			03/10/16 01:58	50
Total Dissolved Solids (TDS)	15000		100	47	mg/L			03/02/16 14:47	1
Total Suspended Solids	2.4	J	4.0	1.1	mg/L			03/04/16 15:14	1

Client Sample ID: W-3EB

Date Collected: 03/01/16 12:00

Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-5

Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.10	HF	0.100	0.100	SU			03/08/16 16:14	1
Temperature	12.6	HF	1.00	1.00	Degrees C			03/08/16 16:14	1
Chloride	ND		3.0	0.25	mg/L			03/10/16 02:15	1
Fluoride	ND		0.50	0.060	mg/L			03/10/16 02:15	1
Sulfate	0.89	J	5.0	0.23	mg/L			03/10/16 02:15	1
Total Dissolved Solids (TDS)	ND		100	47	mg/L			03/02/16 14:47	1
Total Suspended Solids	ND		4.0	1.1	mg/L			03/04/16 15:14	1

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: MW-3

Date Collected: 02/29/16 15:00

Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-1

Matrix: Ground Water

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.479		0.243	0.246	1.00	0.309	pCi/L	03/08/16 13:37	03/30/16 07:39	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	107		40 - 110					03/08/16 13:37	03/30/16 07:39	1

Client Sample ID: W-3

Date Collected: 03/01/16 10:40

Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-2

Matrix: Ground Water

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.128		0.0659	0.0669	1.00	0.0868	pCi/L	03/08/16 13:37	03/30/16 07:39	1

TestAmerica Denver

Client Sample Results

Client: HDR Inc
 Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	108		40 - 110	03/08/16 13:37	03/30/16 07:39	1

Client Sample ID: W-5

Date Collected: 03/01/16 13:00

Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-3
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.323		0.137	0.140	1.00	0.162	pCi/L	03/08/16 13:37	03/30/16 07:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	108		40 - 110					03/08/16 13:37	03/30/16 07:40	1

Client Sample ID: W-3D

Date Collected: 03/01/16 11:15

Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0790	U	0.0594	0.0598	1.00	0.0884	pCi/L	03/08/16 13:37	03/30/16 07:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	107		40 - 110					03/08/16 13:37	03/30/16 07:40	1

Client Sample ID: W-3EB

Date Collected: 03/01/16 12:00

Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-5
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0300	U	0.0396	0.0397	1.00	0.0663	pCi/L	03/08/16 13:37	03/30/16 07:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	109		40 - 110					03/08/16 13:37	03/30/16 07:41	1

Method: 9320 - Radium-228 (GFPC)

Client Sample ID: MW-3
Date Collected: 02/29/16 15:00
Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-1
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0511	UG	0.791	0.791	1.00	1.40	pCi/L	03/09/16 08:29	03/25/16 12:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	107		40 - 110					03/09/16 08:29	03/25/16 12:32	1
Y Carrier	90.1		40 - 110					03/09/16 08:29	03/25/16 12:32	1

Client Sample ID: W-3
Date Collected: 03/01/16 10:40
Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-2
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.363		0.209	0.212	1.00	0.314	pCi/L	03/09/16 08:29	03/25/16 12:32	1

TestAmerica Denver

Client Sample Results

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

Method: 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	108		40 - 110	03/09/16 08:29	03/25/16 12:32	1
Y Carrier	88.2		40 - 110	03/09/16 08:29	03/25/16 12:32	1

Client Sample ID: W-5

Date Collected: 03/01/16 13:00

Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-3

Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.175	U	0.465	0.465	1.00	0.801	pCi/L	03/09/16 08:29	03/25/16 12:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	108		40 - 110					03/09/16 08:29	03/25/16 12:32	1
Y Carrier	79.6		40 - 110					03/09/16 08:29	03/25/16 12:32	1

Client Sample ID: W-3D

Date Collected: 03/01/16 11:15

Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-4

Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.310	U	0.232	0.233	1.00	0.364	pCi/L	03/09/16 08:29	03/25/16 12:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	107		40 - 110					03/09/16 08:29	03/25/16 12:32	1
Y Carrier	83.7		40 - 110					03/09/16 08:29	03/25/16 12:32	1

Client Sample ID: W-3EB

Date Collected: 03/01/16 12:00

Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-5

Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.196	U	0.207	0.208	1.00	0.338	pCi/L	03/09/16 08:29	03/25/16 12:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	109		40 - 110					03/09/16 08:29	03/25/16 12:32	1
Y Carrier	92.0		40 - 110					03/09/16 08:29	03/25/16 12:32	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: MW-3

Date Collected: 02/29/16 15:00

Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-1

Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.530	U	0.827	0.828	5.00	1.40	pCi/L	03/30/16 20:35		1

TestAmerica Denver

Client Sample Results

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: W-3

Date Collected: 03/01/16 10:40

Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-2

Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.491		0.219	0.222	5.00	0.314	pCi/L		03/30/16 20:35	1

Client Sample ID: W-5

Date Collected: 03/01/16 13:00

Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-3

Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.498	U	0.485	0.486	5.00	0.801	pCi/L		03/30/16 20:35	1

Client Sample ID: W-3D

Date Collected: 03/01/16 11:15

Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-4

Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.389		0.239	0.241	5.00	0.364	pCi/L		03/30/16 20:35	1

Client Sample ID: W-3EB

Date Collected: 03/01/16 12:00

Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-5

Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.226	U	0.211	0.211	5.00	0.338	pCi/L		03/30/16 20:35	1

TestAmerica Denver

QC Sample Results

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-220532/1-A

Matrix: Water

Analysis Batch: 222513

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 220532

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00016	mg/L				1
Arsenic	ND		0.0050	0.00049	mg/L				1
Barium	0.00211	J	0.0050	0.0011	mg/L				1
Calcium	0.619	J	1.0	0.24	mg/L				1
Cadmium	ND		0.0010	0.000061	mg/L				1
Cobalt	0.0000240	J	0.0010	0.000021	mg/L				1
Chromium	ND		0.0020	0.00060	mg/L				1
Molybdenum	ND		0.010	0.00023	mg/L				1
Lead	ND		0.0010	0.00011	mg/L				1
Selenium	ND		0.0050	0.00025	mg/L				1
Thallium	ND		0.0010	0.000074	mg/L				1

Lab Sample ID: MB 240-220532/1-A

Matrix: Water

Analysis Batch: 222788

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 220532

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	0.000053	mg/L				1
Lithium	ND		0.0080	0.00029	mg/L				1

Lab Sample ID: MB 240-220532/1-A

Matrix: Water

Analysis Batch: 223095

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 220532

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.020	0.011	mg/L				1

Lab Sample ID: LCS 240-220532/2-A

Matrix: Water

Analysis Batch: 222513

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 220532

Analyte	Spike Added	LCS		D	%Rec	Limits
		Result	Qualifier			
Antimony	0.100	0.0968		mg/L	97	80 - 120
Arsenic	1.00	0.881		mg/L	88	80 - 120
Barium	1.00	0.953		mg/L	95	80 - 120
Calcium	10.0	9.67		mg/L	97	80 - 120
Cadmium	1.00	0.935		mg/L	93	80 - 120
Cobalt	1.00	0.991		mg/L	99	80 - 120
Chromium	1.00	0.990		mg/L	99	80 - 120
Molybdenum	0.100	0.0923		mg/L	92	80 - 120
Lead	1.00	0.877		mg/L	88	80 - 120
Selenium	1.00	0.898		mg/L	90	80 - 120
Thallium	0.250	0.222		mg/L	89	80 - 120

TestAmerica Denver

QC Sample Results

Client: HDR Inc
 Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-220532/2-A

Matrix: Water

Analysis Batch: 222788

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
Beryllium	1.00	0.943		mg/L	94	80 - 120	
Lithium	0.100	0.100		mg/L	100	80 - 120	

Lab Sample ID: LCS 240-220532/2-A

Matrix: Water

Analysis Batch: 223095

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
Boron	0.100	0.0893		mg/L	89	80 - 120	

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 280-316714/1-A

Matrix: Water

Analysis Batch: 316886

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.027	ug/L		03/14/16 11:20	03/14/16 18:13	1

Lab Sample ID: LCS 280-316714/2-A

Matrix: Water

Analysis Batch: 316886

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
Mercury	5.00	5.20		ug/L	104	84 - 120	

Method: 9040B - pH

Lab Sample ID: LCS 280-315914/4

Matrix: Water

Analysis Batch: 315914

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
pH adj. to 25 deg C	7.00	7.060		SU	101	99 - 101	

Lab Sample ID: LCS 280-316196/4

Matrix: Water

Analysis Batch: 316196

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
pH adj. to 25 deg C	7.00	7.050		SU	101	99 - 101	

Lab Sample ID: 280-80279-5 DU

Matrix: Ground Water

Analysis Batch: 316196

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH adj. to 25 deg C	7.10	HF	7.060		SU		0.6	5
Temperature	12.6	HF	12.30		Degrees C		2	10

TestAmerica Denver

QC Sample Results

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-316298/6

Matrix: Water

Analysis Batch: 316298

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	0.25	mg/L			03/09/16 11:53	1
Fluoride	ND		0.50	0.060	mg/L			03/09/16 11:53	1
Sulfate	ND		5.0	0.23	mg/L			03/09/16 11:53	1

Lab Sample ID: LCS 280-316298/4

Matrix: Water

Analysis Batch: 316298

Analyte	Spike Added	LCS	LCS	%Rec.			
		Result	Qualifier	Unit	D	%Rec	Limits
Chloride	100	100		mg/L		100	90 - 110
Fluoride	5.00	5.04		mg/L		101	90 - 110
Sulfate	100	100		mg/L		100	90 - 110

Lab Sample ID: LCSD 280-316298/5

Matrix: Water

Analysis Batch: 316298

Analyte	Spike Added	LCSD	LCSD	%Rec.				
		Result	Qualifier	Unit	D	%Rec	RPD	Limit
Chloride	100	100		mg/L		100	90 - 110	0 10
Fluoride	5.00	5.06		mg/L		101	90 - 110	0 10
Sulfate	100	100		mg/L		100	90 - 110	0 10

Lab Sample ID: MRL 280-316298/3

Matrix: Water

Analysis Batch: 316298

Analyte	Spike Added	MRL	MRL	%Rec.			
		Result	Qualifier	Unit	D	%Rec	Limits
Chloride	2.50	2.47	J	mg/L		99	50 - 150
Fluoride	0.200	0.163	J	mg/L		82	50 - 150
Sulfate	2.50	2.46	J	mg/L		99	50 - 150

Lab Sample ID: MB 280-316415/6

Matrix: Water

Analysis Batch: 316415

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	0.331	J	5.0	0.23	mg/L			03/10/16 11:28	1

Lab Sample ID: LCS 280-316415/4

Matrix: Water

Analysis Batch: 316415

Analyte	Spike Added	LCS	LCS	%Rec.			
		Result	Qualifier	Unit	D	%Rec	Limits
Sulfate	100	98.7		mg/L		99	90 - 110

TestAmerica Denver

QC Sample Results

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 280-316415/5

Matrix: Water

Analysis Batch: 316415

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	100	98.6		mg/L		99	90 - 110	0	10

Lab Sample ID: MRL 280-316415/3

Matrix: Water

Analysis Batch: 316415

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	2.50	2.10	J	mg/L		84	50 - 150

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 280-315569/1

Matrix: Water

Analysis Batch: 315569

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			03/02/16 14:47	1

Lab Sample ID: LCS 280-315569/2

Matrix: Water

Analysis Batch: 315569

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	501	491		mg/L		98	86 - 110

Lab Sample ID: 280-80279-A-2 DU

Matrix: Ground Water

Analysis Batch: 315569

Client Sample ID: 280-80279-A-2 DU
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids (TDS)	14000	E	14000	E	mg/L		0.7	10

Lab Sample ID: MB 280-315950/1

Matrix: Water

Analysis Batch: 315950

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			03/05/16 12:55	1

Lab Sample ID: LCS 280-315950/2

Matrix: Water

Analysis Batch: 315950

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	500	494		mg/L		99	86 - 110

TestAmerica Denver

QC Sample Results

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCSD 280-315950/3

Matrix: Water

Analysis Batch: 315950

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec.	RPD	RPD Limit
Total Dissolved Solids (TDS)	500	496		mg/L		99	86 - 110	0 20

Lab Sample ID: MB 280-316358/1

Matrix: Water

Analysis Batch: 316358

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			03/09/16 15:41	1

Lab Sample ID: LCS 280-316358/2

Matrix: Water

Analysis Batch: 316358

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	RPD	RPD Limit
Total Dissolved Solids (TDS)	500	488		mg/L		98	86 - 110	

Lab Sample ID: LCSD 280-316358/3

Matrix: Water

Analysis Batch: 316358

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec.	RPD	RPD Limit
Total Dissolved Solids (TDS)	500	491		mg/L		98	86 - 110	1 20

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 280-315887/2

Matrix: Water

Analysis Batch: 315887

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			03/04/16 15:14	1

Lab Sample ID: LCS 280-315887/1

Matrix: Water

Analysis Batch: 315887

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	RPD	RPD Limit
Total Suspended Solids	100	90.0		mg/L		90	86 - 114	

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-239587/1-A

Matrix: Water

Analysis Batch: 242937

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 239587

Analyte	MB		Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier								
Radium-226	0.009179	U	0.0428	0.0428	1.00	0.0821	pCi/L	03/08/16 13:37	03/30/16 07:31	1

TestAmerica Denver

QC Sample Results

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

Method: 9315 - Radium-226 (GFPC) (Continued)

Lab Sample ID: MB 160-239587/1-A

Matrix: Water

Analysis Batch: 242937

Carrier	MB %Yield	MB Qualifier	Limits
Ba Carrier	98.0		40 - 110

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 239587

Lab Sample ID: LCS 160-239587/2-A

Matrix: Water

Analysis Batch: 242937

Analyte	Spike Added	LCS		Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec.	Limits
		Result	Qual						
Radium-226	11.2	11.76		1.16	1.00	0.0685	pCi/L	105	68 - 137

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	104		40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-239659/1-A

Matrix: Water

Analysis Batch: 242196

Analyte	Result	Count		Total		RL	MDC	Unit	Prepared	Analyzed	Dil Fac
		MB	MB Qualifier	Uncert. (2σ+/-)	Total Uncert. (2σ+/-)						
Radium-228	0.9459			0.318	0.329	1.00	0.441	pCi/L	03/09/16 08:29	03/25/16 12:31	1

Carrier	MB %Yield	MB Qualifier	Limits
Ba Carrier	98.0		40 - 110
Y Carrier	86.0		40 - 110

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 239659

Lab Sample ID: LCS 160-239659/2-A

Matrix: Water

Analysis Batch: 242196

Analyte	Spike Added	LCS		Total		RL	MDC	Unit	%Rec.	Limits
		Result	Qual	Uncert. (2σ+/-)	Total Uncert. (2σ+/-)					
Radium-228	15.4	9.402		1.07	1.00	0.364	pCi/L		61	56 - 140

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	104		40 - 110
Y Carrier	87.9		40 - 110

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 239659

QC Association Summary

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

Metals

Prep Batch: 220532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-80279-1	MW-3	Total Recoverable	Ground Water	3005A	5
280-80279-2	W-3	Total Recoverable	Ground Water	3005A	6
280-80279-3	W-5	Total Recoverable	Ground Water	3005A	7
280-80279-4	W-3D	Total Recoverable	Water	3005A	8
280-80279-5	W-3EB	Total Recoverable	Ground Water	3005A	9
LCS 240-220532/2-A	Lab Control Sample	Total Recoverable	Water	3005A	10
MB 240-220532/1-A	Method Blank	Total Recoverable	Water	3005A	11

Analysis Batch: 222513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-80279-1	MW-3	Total Recoverable	Ground Water	6020A	220532
280-80279-2	W-3	Total Recoverable	Ground Water	6020A	220532
280-80279-3	W-5	Total Recoverable	Ground Water	6020A	220532
280-80279-4	W-3D	Total Recoverable	Water	6020A	220532
280-80279-5	W-3EB	Total Recoverable	Ground Water	6020A	220532
LCS 240-220532/2-A	Lab Control Sample	Total Recoverable	Water	6020A	220532
MB 240-220532/1-A	Method Blank	Total Recoverable	Water	6020A	220532

Analysis Batch: 222788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-80279-1	MW-3	Total Recoverable	Ground Water	6020A	220532
280-80279-2	W-3	Total Recoverable	Ground Water	6020A	220532
280-80279-3	W-5	Total Recoverable	Ground Water	6020A	220532
280-80279-4	W-3D	Total Recoverable	Water	6020A	220532
280-80279-5	W-3EB	Total Recoverable	Ground Water	6020A	220532
LCS 240-220532/2-A	Lab Control Sample	Total Recoverable	Water	6020A	220532
MB 240-220532/1-A	Method Blank	Total Recoverable	Water	6020A	220532

Analysis Batch: 223095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-80279-1	MW-3	Total Recoverable	Ground Water	6020A	220532
280-80279-1	MW-3	Total Recoverable	Ground Water	6020A	220532
280-80279-2	W-3	Total Recoverable	Ground Water	6020A	220532
280-80279-3	W-5	Total Recoverable	Ground Water	6020A	220532
280-80279-3	W-5	Total Recoverable	Ground Water	6020A	220532
280-80279-4	W-3D	Total Recoverable	Water	6020A	220532
280-80279-5	W-3EB	Total Recoverable	Ground Water	6020A	220532
LCS 240-220532/2-A	Lab Control Sample	Total Recoverable	Water	6020A	220532
MB 240-220532/1-A	Method Blank	Total Recoverable	Water	6020A	220532

Prep Batch: 316714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-80279-1	MW-3	Total/NA	Ground Water	7470A	1
280-80279-2	W-3	Total/NA	Ground Water	7470A	2
280-80279-3	W-5	Total/NA	Ground Water	7470A	3
280-80279-4	W-3D	Total/NA	Water	7470A	4
280-80279-5	W-3EB	Total/NA	Ground Water	7470A	5
LCS 280-316714/2-A	Lab Control Sample	Total/NA	Water	7470A	6
MB 280-316714/1-A	Method Blank	Total/NA	Water	7470A	7

TestAmerica Denver

QC Association Summary

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

Metals (Continued)

Analysis Batch: 316886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-80279-1	MW-3	Total/NA	Ground Water	7470A	316714
280-80279-2	W-3	Total/NA	Ground Water	7470A	316714
280-80279-3	W-5	Total/NA	Ground Water	7470A	316714
280-80279-4	W-3D	Total/NA	Water	7470A	316714
280-80279-5	W-3EB	Total/NA	Ground Water	7470A	316714
LCS 280-316714/2-A	Lab Control Sample	Total/NA	Water	7470A	316714
MB 280-316714/1-A	Method Blank	Total/NA	Water	7470A	316714

General Chemistry

Analysis Batch: 315569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-80279-4	W-3D	Total/NA	Water	SM 2540C	10
280-80279-5	W-3EB	Total/NA	Ground Water	SM 2540C	11
280-80279-A-2 DU	280-80279-A-2 DU	Total/NA	Ground Water	SM 2540C	12
LCS 280-315569/2	Lab Control Sample	Total/NA	Water	SM 2540C	13
MB 280-315569/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 315887

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-80279-1	MW-3	Total/NA	Ground Water	SM 2540D	14
280-80279-2	W-3	Total/NA	Ground Water	SM 2540D	15
280-80279-3	W-5	Total/NA	Ground Water	SM 2540D	
280-80279-4	W-3D	Total/NA	Water	SM 2540D	
280-80279-5	W-3EB	Total/NA	Ground Water	SM 2540D	
LCS 280-315887/1	Lab Control Sample	Total/NA	Water	SM 2540D	
MB 280-315887/2	Method Blank	Total/NA	Water	SM 2540D	

Analysis Batch: 315914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-80279-1	MW-3	Total/NA	Ground Water	9040B	
280-80279-2	W-3	Total/NA	Ground Water	9040B	
280-80279-3	W-5	Total/NA	Ground Water	9040B	
280-80279-4	W-3D	Total/NA	Water	9040B	
LCS 280-315914/4	Lab Control Sample	Total/NA	Water	9040B	

Analysis Batch: 315950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-80279-1	MW-3	Total/NA	Ground Water	SM 2540C	
280-80279-2	W-3	Total/NA	Ground Water	SM 2540C	
LCS 280-315950/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 280-315950/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
MB 280-315950/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 316196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-80279-5	W-3EB	Total/NA	Ground Water	9040B	
280-80279-5 DU	W-3EB	Total/NA	Ground Water	9040B	
LCS 280-316196/4	Lab Control Sample	Total/NA	Water	9040B	

TestAmerica Denver

QC Association Summary

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

General Chemistry (Continued)

Analysis Batch: 316298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-80279-1	MW-3	Total/NA	Ground Water	9056A	1
280-80279-2	W-3	Total/NA	Ground Water	9056A	2
280-80279-2	W-3	Total/NA	Ground Water	9056A	3
280-80279-3	W-5	Total/NA	Ground Water	9056A	4
280-80279-4	W-3D	Total/NA	Water	9056A	5
280-80279-4	W-3D	Total/NA	Water	9056A	6
280-80279-5	W-3EB	Total/NA	Ground Water	9056A	7
LCS 280-316298/4	Lab Control Sample	Total/NA	Water	9056A	8
LCSD 280-316298/5	Lab Control Sample Dup	Total/NA	Water	9056A	9
MB 280-316298/6	Method Blank	Total/NA	Water	9056A	10
MRL 280-316298/3	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 316358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-80279-3	W-5	Total/NA	Ground Water	SM 2540C	11
LCS 280-316358/2	Lab Control Sample	Total/NA	Water	SM 2540C	12
LCSD 280-316358/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	13
MB 280-316358/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 316415

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-80279-1	MW-3	Total/NA	Ground Water	9056A	14
280-80279-3	W-5	Total/NA	Ground Water	9056A	15
LCS 280-316415/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-316415/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MB 280-316415/6	Method Blank	Total/NA	Water	9056A	
MRL 280-316415/3	Lab Control Sample	Total/NA	Water	9056A	

Rad

Prep Batch: 239587

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-80279-1	MW-3	Total/NA	Ground Water	PrecSep-21	
280-80279-2	W-3	Total/NA	Ground Water	PrecSep-21	
280-80279-3	W-5	Total/NA	Ground Water	PrecSep-21	
280-80279-4	W-3D	Total/NA	Water	PrecSep-21	
280-80279-5	W-3EB	Total/NA	Ground Water	PrecSep-21	
LCS 160-239587/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
MB 160-239587/1-A	Method Blank	Total/NA	Water	PrecSep-21	

Prep Batch: 239659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-80279-1	MW-3	Total/NA	Ground Water	PrecSep_0	
280-80279-2	W-3	Total/NA	Ground Water	PrecSep_0	
280-80279-3	W-5	Total/NA	Ground Water	PrecSep_0	
280-80279-4	W-3D	Total/NA	Water	PrecSep_0	
280-80279-5	W-3EB	Total/NA	Ground Water	PrecSep_0	
LCS 160-239659/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
MB 160-239659/1-A	Method Blank	Total/NA	Water	PrecSep_0	

TestAmerica Denver

Lab Chronicle

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

Client Sample ID: MW-3

Date Collected: 02/29/16 15:00

Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-1

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	220532	03/07/16 13:37	WKD	TAL CAN
Total Recoverable	Analysis	6020A		1	50 mL	50 mL	222513	03/21/16 16:47	AS1	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	220532	03/07/16 13:37	WKD	TAL CAN
Total Recoverable	Analysis	6020A		1	50 mL	50 mL	222788	03/22/16 22:11	AS1	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	220532	03/07/16 13:37	WKD	TAL CAN
Total Recoverable	Analysis	6020A		20	50 mL	50 mL	223095	03/24/16 13:17	AS1	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	220532	03/07/16 13:37	WKD	TAL CAN
Total Recoverable	Analysis	6020A		5	50 mL	50 mL	223095	03/24/16 13:50	AS1	TAL CAN
Total/NA	Prep	7470A			30 mL	50 mL	316714	03/14/16 11:20	CDH	TAL DEN
Total/NA	Analysis	7470A		1	30 mL	50 mL	316886	03/14/16 18:50	CDH	TAL DEN
Total/NA	Analysis	9040B			1		315914	03/04/16 17:53	MAS	TAL DEN
Total/NA	Analysis	9056A		500	5 mL	5 mL	316415	03/10/16 11:56	AFB	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	316298	03/09/16 23:54	AFB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	315950	03/05/16 12:55	RSM	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	315887	03/04/16 15:14	SVC	TAL DEN
Total/NA	Prep	PrecSep-21			250.35 mL	1.0 g	239587	03/08/16 13:37	MRB	TAL SL
Total/NA	Analysis	9315		1	250.35 mL		242941	03/30/16 07:39	RTM	TAL SL
Total/NA	Prep	PrecSep_0			250.35 mL	1.0 g	239659	03/09/16 08:29	CMC	TAL SL
Total/NA	Analysis	9320		1	250.35 mL		242196	03/25/16 12:32	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			242979	03/30/16 20:35	RTM	TAL SL

Client Sample ID: W-3

Date Collected: 03/01/16 10:40

Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-2

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	220532	03/07/16 13:37	WKD	TAL CAN
Total Recoverable	Analysis	6020A		1	50 mL	50 mL	222513	03/21/16 16:55	AS1	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	220532	03/07/16 13:37	WKD	TAL CAN
Total Recoverable	Analysis	6020A		1	50 mL	50 mL	222788	03/22/16 22:19	AS1	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	220532	03/07/16 13:37	WKD	TAL CAN
Total Recoverable	Analysis	6020A		20	50 mL	50 mL	223095	03/24/16 13:21	AS1	TAL CAN
Total/NA	Prep	7470A			30 mL	50 mL	316714	03/14/16 11:20	CDH	TAL DEN
Total/NA	Analysis	7470A		1	30 mL	50 mL	316886	03/14/16 18:53	CDH	TAL DEN
Total/NA	Analysis	9040B			1		315914	03/04/16 18:04	MAS	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	316298	03/10/16 00:29	AFB	TAL DEN
Total/NA	Analysis	9056A		50	5 mL	5 mL	316298	03/10/16 00:47	AFB	TAL DEN
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	315950	03/05/16 12:55	RSM	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	315887	03/04/16 15:14	SVC	TAL DEN
Total/NA	Prep	PrecSep-21			1000.57 mL	1.0 g	239587	03/08/16 13:37	MRB	TAL SL
Total/NA	Analysis	9315		1	1000.57 mL		242941	03/30/16 07:39	RTM	TAL SL
Total/NA	Prep	PrecSep_0			1000.57 mL	1.0 g	239659	03/09/16 08:29	CMC	TAL SL

TestAmerica Denver

Lab Chronicle

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

Client Sample ID: W-3D

Date Collected: 03/01/16 11:15

Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9040B		1			315914	03/04/16 17:58	MAS	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	316298	03/10/16 01:40	AFB	TAL DEN
Total/NA	Analysis	9056A		50	5 mL	5 mL	316298	03/10/16 01:58	AFB	TAL DEN
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	315569	03/02/16 14:47	RSM	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	315887	03/04/16 15:14	SVC	TAL DEN
Total/NA	Prep	PrecSep-21			1000.45 mL	1.0 g	239587	03/08/16 13:37	MRB	TAL SL
Total/NA	Analysis	9315		1	1000.45 mL		242941	03/30/16 07:40	RTM	TAL SL
Total/NA	Prep	PrecSep_0			1000.45 mL	1.0 g	239659	03/09/16 08:29	CMC	TAL SL
Total/NA	Analysis	9320		1	1000.45 mL		242196	03/25/16 12:32	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			242979	03/30/16 20:35	RTM	TAL SL

Client Sample ID: W-3EB

Date Collected: 03/01/16 12:00

Date Received: 03/01/16 17:30

Lab Sample ID: 280-80279-5

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	220532	03/07/16 13:37	WKD	TAL CAN
Total Recoverable	Analysis	6020A		1	50 mL	50 mL	222513	03/21/16 17:29	AS1	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	220532	03/07/16 13:37	WKD	TAL CAN
Total Recoverable	Analysis	6020A		1	50 mL	50 mL	222788	03/22/16 22:45	AS1	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	220532	03/07/16 13:37	WKD	TAL CAN
Total Recoverable	Analysis	6020A		1	50 mL	50 mL	223095	03/24/16 13:34	AS1	TAL CAN
Total/NA	Prep	7470A			30 mL	50 mL	316714	03/14/16 11:20	CDH	TAL DEN
Total/NA	Analysis	7470A		1	30 mL	50 mL	316886	03/14/16 19:00	CDH	TAL DEN
Total/NA	Analysis	9040B		1		1 mL	316196	03/08/16 16:14	MAS	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	316298	03/10/16 02:15	AFB	TAL DEN
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	315569	03/02/16 14:47	RSM	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	315887	03/04/16 15:14	SVC	TAL DEN
Total/NA	Prep	PrecSep-21			1000.25 mL	1.0 g	239587	03/08/16 13:37	MRB	TAL SL
Total/NA	Analysis	9315		1	1000.25 mL		242941	03/30/16 07:41	RTM	TAL SL
Total/NA	Prep	PrecSep_0			1000.25 mL	1.0 g	239659	03/09/16 08:29	CMC	TAL SL
Total/NA	Analysis	9320		1	1000.25 mL		242196	03/25/16 12:32	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			242979	03/30/16 20:35	RTM	TAL SL

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

TestAmerica Denver

Certification Summary

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

Laboratory: TestAmerica Denver

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-17
The following analytes are included in this report, but certification is not offered by the governing authority:				
Analysis Method	Prep Method	Matrix	Analyte	
7470A	7470A	Ground Water	Mercury	
7470A	7470A	Water	Mercury	
9040B		Ground Water	Temperature	
9040B		Water	Temperature	
9056A		Ground Water	Chloride	
9056A		Ground Water	Fluoride	
9056A		Ground Water	Sulfate	
9056A		Water	Chloride	
9056A		Water	Fluoride	
9056A		Water	Sulfate	

Laboratory: TestAmerica Canton

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	NELAP	9	01144CA	06-30-14 *
California	State Program	9	2927	04-30-17
Connecticut	State Program	1	PH-0590	12-31-17
Florida	NELAP	4	E87225	06-30-16
Illinois	NELAP	5	200004	07-31-16
Kansas	NELAP	7	E-10336	01-31-16 *
Kentucky (UST)	State Program	4	58	02-23-17
Kentucky (WW)	State Program	4	98016	12-31-16
L-A-B	DoD ELAP		L2315	07-18-16
Minnesota	NELAP	5	039-999-348	12-31-16
Nevada	State Program	9	OH-000482008A	07-31-16
New Jersey	NELAP	2	OH001	06-30-16 *
New York	NELAP	2	10975	03-31-16 *
Ohio VAP	State Program	5	CL0024	09-14-17
Oregon	NELAP	10	4062	02-23-17
Pennsylvania	NELAP	3	68-00340	08-31-16
Texas	NELAP	6	T104704517-15-5	08-31-16
USDA	Federal		P330-13-00319	11-26-16
Virginia	NELAP	3	460175	09-14-16
Washington	State Program	10	C971	01-12-17
West Virginia DEP	State Program	3	210	12-31-16
Wisconsin	State Program	5	999518190	08-31-16

Laboratory: TestAmerica St. Louis

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	MO00054	06-30-16
California	State Program	9	2886	03-31-18
Connecticut	State Program	1	PH-0241	03-31-17
Florida	NELAP	4	E87689	06-30-16
Illinois	NELAP	5	003757	11-30-16

* Certification renewal pending - certification considered valid.

TestAmerica Denver

Certification Summary

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

Laboratory: TestAmerica St. Louis (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Iowa	State Program	7	373	12-01-16
Kansas	NELAP	7	E-10236	05-31-16
Kentucky (DW)	State Program	4	90125	12-31-16
L-A-B	DoD ELAP		L2305	04-10-16 *
Louisiana	NELAP	6	04080	06-30-16
Louisiana (DW)	NELAP	6	LA160008	12-31-16
Maryland	State Program	3	310	09-30-16
Missouri	State Program	7	780	06-30-16
Nevada	State Program	9	MO000542016-1	07-31-16
New Jersey	NELAP	2	MO002	06-30-16
New York	NELAP	2	11616	03-31-16 *
North Dakota	State Program	8	R207	06-30-16
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-16
Pennsylvania	NELAP	3	68-00540	02-28-17 *
South Carolina	State Program	4	85002001	06-30-16
Texas	NELAP	6	T104704193-15-9	07-31-16
USDA	Federal		P330-07-00122	01-09-17
Utah	NELAP	8	MO000542015-7	07-31-16
Virginia	NELAP	3	460230	06-14-16
Washington	State Program	10	C592	08-30-16
West Virginia DEP	State Program	3	381	08-31-16

* Certification renewal pending - certification considered valid.

TestAmerica Denver

TestAmerica Denver

4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

280-80279 Chain of Custody

TestAmerica

THE LEADERS IN ENVIRONMENTAL TESTING

Client Information		Sampler:	Tara Kent	Lab P/M:	Kupper, Stephanie K	Carrier Tracking No(s):	
Client Contact:	Anna Lundin	Phone:	720 933 7496	E-Mail:	stephanie.kupper@testamericainc.com	COC No:	
Company:	HDR Inc	Address:	9781 S. Meridian Blvd Suite 400	Due Date Requested:		Page:	1 of 1
City:	Englewood	TAT Requested (days):	Standard	Preservation Codes:	A - HCl B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anchor Acid H - Ascorbic Acid I - Ce J - Di Water K - EDTA L - EDA Other:	Page:	1 of 1
State, Zip:	CO, 80112	PO#:	DEN-001		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SSO3 R - Na2S2O3 S - H2S4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	Job #:	
Phone:	720-633-2380 (Tel)	W/O#:					
Email:	anna.lundin@hdrinc.com	Project#:	28014376				
Project Name:	Xcel Energy GW CCR Monitoring - Comanche	SSOW#:					
Site:	Colorado						
Analysis Requested		Sample Date:	Sample Time:	Sample Type:	Matrix	Special Instructions/Note:	
				(C=comp, G=grab)	(W=water, S=solid, O=waste, B=tissue, A=air)		
Sample Identification		Preservation Code:		N	D	N	D
MAN-1	TR			Water	Water		
MAN-2	TR			Water	Water		
MW-3	TP	2/29/16	1500 G	Water	Water	✓	✓
MW-4	TP			Water	Water	✓	✓
W-3	TP	3/1/16	1040 G	Water	Water	✓	✓
W-4	TP			Water	Water	✓	✓
W-5	TP	3/1/16	1300 G	Water	Water	✓	✓
Field Duplicate:	W-3D			Water	Water	✓	✓
Equipment Blank:	VV-3EB	3/1/16	1115 G	Water	Water	✓	✓
		3/1/16	1200 G	Water	Water	✓	✓
Possible Hazard Identification		<input checked="" type="checkbox"/> Non-Hazard	<input type="checkbox"/> Flammable	<input type="checkbox"/> Skin Irritant	<input type="checkbox"/> Poison B	<input type="checkbox"/> Unknown	<input type="checkbox"/> Radiological
Deliverable Requested: I, II, III, IV, Other (specify)							
Empty Kit Relinquished by:	Tara Kent	Date/Time:	1/16/2016	Time:	10:55	Method of Shipment:	
Relinquished by:	Tara Kent	Date/Time:	1/16/2016	Time:	10:55	Date/Time:	3/1/16 1730
Relinquished by:		Date/Time:		Time:		Date/Time:	4/1/16 1730
Custody Seals Intact:	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 14° C on 1/16/2016					
△ Yes	△ No						

TestAmerica Denver

 4955 Yarrow Street
 Arvada, CO 80002
 Phone (303) 736-0100 Fax (303) 431-7717

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING

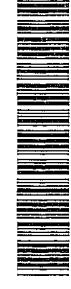
Chain of Custody Record

Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Kupper, Stephanie K	Carrier Tracking No(s):	COC No:
Client Contact:	Shipping/Receiving	Phone:	E-Mail:	stephanie.kupper@testamericanainc.com		280-341668.1
Company:	TestAmerica Laboratories, Inc.	Address:			Page 1 of 1	Job #:
Due Date Requested:						
3/28/2016 TAT Requested (days):						
City:	Earth City					
State, Zip:	MO, 63045					
Phone:	314-298-8566(Tel)	314-298-8757(Fax)				
Email:						
Project Name:	Xcel Energy GW CCR Monitoring - Comanche					
Site:	Xcel Energy CCR - Comanche Station					
Sample Identification - Client ID (Lab ID)						
MW-3 (280-80279-1)	2/29/16	15:00	Water	X X X		2
W-3 (280-80279-2)	3/1/16	10:40	Water	X X X		4
W-5 (280-80279-3)	3/1/16	13:00	Water	X X X		4
W-3D (280-80279-4)	3/1/16	11:15	Mountain			4
W-3EB (280-80279-5)	3/1/16	12:00	Water	X X X		3
Total Number of Containers:						
9320_R228/PrecSep_0_R228 (2/3) - SUE						
9315_R226/PrecSep_21_R226 (1/3) - SUE						
RA226RA228_GFC/GFC/Ra226/RA228 Calc (3/3) - SUE						
Petroform MS/MS (YES or NO)						
F/G/C Filtered Sample (YES or NO)						
Special Instructions/Note:						
Preservation Codes:						
A-HCL M - Hexane						
B-NaOH N - None						
C-Zn Acetate O - NaClO2						
D-Nitric Acid P - Na2O4S						
E-NaHSO4 Q - Na2SCo3						
F-MeOH R - Na2SSCo3						
G-Anchior S - H2SO4						
H-Ascorbic Acid T - TSP Dodecahydrate						
I-Ice U - Acetone						
J-Di Water V - MGAA						
K-EDTA W - pH 4-5						
L-EDA Z - other (specify)						
Other:						
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Custody Seal No.:						
Possible Hazard Identification						
Unconfirmed						
Deliverable Requested: I, II, III, IV, Other (specify)						
Empty Kit Relinquished by:						
Relinquished by:	Date/Time:	Date/Time:	Received by:	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Date/Time:	Received by:	Received by:	Date/Time:	Company
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)						
<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months						
Special Instructions/QC Requirements:						
Method of Shipment:						
Date: Time: Date/Time: Company Date/Time: Company						
Date: Time: Received by: Received by: Date/Time: Company						
Date: Time: Received by: Received by: Date/Time: Company						

TestAmerica Denver

4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)		Sampler:	Lab P/M: Kupper, Stephanie K	Carrier Tracking No(s):	COC No: 280-341667-1																																										
Client Contact: Shipping/Receiving Company: TestAmerica Laboratories, Inc.	Phone:	E-Mail: stephanie.kupper@testamericanainc.com	Job #: 280-80279-1	Page:	Page 1 of 1																																										
Analysis Requested																																															
<p>Address: 4101 Shuffel Street NW, North Canton State, Zip: OH, 44720 Phone: 330-497-9396(Tel) 330-497-0772(Fax) Email: Project Name: Xcel Energy GW CCR Monitoring - Comanche Site: Xcel Energy CCR - Comanche Station</p> <p>Due Date Requested: 3/24/2016 TAT Requested (days):</p> <p>PO #: WO #: Project #: 28014376 SSOW#:</p> <p>Total Number of Contaminants: 6020A/3005A 14 Total Metals (w/collision gel) - SUE</p> <p>Performed Sample (yes or No): Perform MIS/MIS (yes or No)</p> <p>Lead Filtered Sample (yes or No): Lead Filtered Sample (yes or No)</p> <p>Special Instructions/Note: 538 560</p>																																															
<table border="1"> <thead> <tr> <th>Sample Identification - Client ID (Lab ID)</th> <th>Sample Date</th> <th>Sample Time</th> <th>Sample Type (C=comm, G=grab)</th> <th>Matrix (Water, Sediment, Groundwater, Air)</th> <th>Preservation Code:</th> </tr> </thead> <tbody> <tr> <td>MW-3 (280-80279-1)</td> <td>2/29/16</td> <td>15:00</td> <td>Water</td> <td>X</td> <td>X500</td> </tr> <tr> <td>W-3 (280-80279-2)</td> <td>3/1/16</td> <td>10:40</td> <td>Water</td> <td>X</td> <td>Use Collision Cell</td> </tr> <tr> <td>W-5 (280-80279-3)</td> <td>3/1/16</td> <td>13:00</td> <td>Water</td> <td>X</td> <td>Use Collision Cell</td> </tr> <tr> <td>W-3D (280-80279-4)</td> <td>3/1/16</td> <td>11:15</td> <td>Water</td> <td>X</td> <td>Use Collision Cell</td> </tr> <tr> <td>W-3EB (280-80279-5)</td> <td>3/1/16</td> <td>12:00</td> <td>Water</td> <td>X</td> <td>Use Collision Cell</td> </tr> <tr> <td colspan="6"><i>(x) Second Hand Poly per sample 2-3-16</i></td> </tr> </tbody> </table>						Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comm, G=grab)	Matrix (Water, Sediment, Groundwater, Air)	Preservation Code:	MW-3 (280-80279-1)	2/29/16	15:00	Water	X	X500	W-3 (280-80279-2)	3/1/16	10:40	Water	X	Use Collision Cell	W-5 (280-80279-3)	3/1/16	13:00	Water	X	Use Collision Cell	W-3D (280-80279-4)	3/1/16	11:15	Water	X	Use Collision Cell	W-3EB (280-80279-5)	3/1/16	12:00	Water	X	Use Collision Cell	<i>(x) Second Hand Poly per sample 2-3-16</i>					
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comm, G=grab)	Matrix (Water, Sediment, Groundwater, Air)	Preservation Code:																																										
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<p>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</p> <p><input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months</p> <p>Special Instructions/QC Requirements:</p> <p>Method of Shipment:</p> <p>Date/Time: <i>3/31/16 150 PM</i> Received by: <i>Stephanie Kupper</i> Date/Time: <i>3/31/16 9:30 AM</i> Received by: <i>John Easton</i></p> <p>Cooler Temperature(s) °C and Other Remarks:</p>																																															

TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # 280-20279

Client TA Denver

Site Name

Cooler unpacked by:

Cooler Received on 3-4-16

Opened on 3-4-16

Jenny Stiller

FedEx: 1st Grd Exp

UPS

FAS

Stetson

Client Drop Off

TestAmerica Courier

Other

Receipt After-hours: Drop-off Date/Time

Storage Location

TestAmerica Cooler #

Foam Box

Client Cooler

Box

Other _____

Packing material used: Bubble Wrap

Foam

Plastic Bag

None

Other _____

COOLANT:

Wet Ice

Blue Ice

Dry Ice

Water

None

1. Cooler temperature upon receipt See Multiple Cooler Form

IR GUN# 48 (CF -1.9 °C) Observed Cooler Temp. ____ °C Corrected Cooler Temp. ____ °C

IR GUN# 36 (CF -1.5 °C) Observed Cooler Temp. ____ °C Corrected Cooler Temp. ____ °C

IR GUN# I8 (CF -0.5 °C) Observed Cooler Temp. 1.2 °C Corrected Cooler Temp. 0.7 °C

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No

-Were custody seals on the outside of the cooler(s) signed & dated? Yes No NA-Were custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No

3. Shippers' packing slip attached to the cooler(s)? Yes No

4. Did custody papers accompany the sample(s)? Yes No

5. Were the custody papers relinquished & signed in the appropriate place? Yes No

6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No

7. Did all bottles arrive in good condition (Unbroken)? Yes No

8. Could all bottle labels be reconciled with the COC? Yes No

9. Were correct bottle(s) used for the test(s) indicated? Yes No

10. Sufficient quantity received to perform indicated analyses? Yes No

11. Are these work share samples? Yes No

If yes, Questions 12-16 have been checked at the originating laboratory.

12. Were sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC559158

13. Were VOAs on the COC? Yes No

14. Were air bubbles >6 mm in any VOA vials? Yes No NA

15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot# _____ Yes No

16. Was a LL Hg or Me Hg trip blank present? _____ Yes No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-80279-1

Login Number: 80279

List Source: TestAmerica Denver

List Number: 1

Creator: Soto, Mayra A

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-80279-1

Login Number: 80279

List Source: TestAmerica St. Louis

List Number: 2

List Creation: 03/04/16 11:58 AM

Creator: McKinney, Gerrod E

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.3, 1.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Tracer/Carrier Summary

Client: HDR Inc

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

TestAmerica Job ID: 280-80279-1

Method: 9315 - Radium-226 (GFPC)

Matrix: Ground Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)
280-80279-1	MW-3	107
280-80279-2	W-3	108
280-80279-3	W-5	108
280-80279-5	W-3EB	109

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9315 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)
280-80279-4	W-3D	107
LCS 160-239587/2-A	Lab Control Sample	104
MB 160-239587/1-A	Method Blank	98.0

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Ground Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
280-80279-1	MW-3	107	90.1
280-80279-2	W-3	108	88.2
280-80279-3	W-5	108	79.6
280-80279-5	W-3EB	109	92.0

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
280-80279-4	W-3D	107	83.7
LCS 160-239659/2-A	Lab Control Sample	104	87.9
MB 160-239659/1-A	Method Blank	98.0	86.0

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

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